

ORGANOSILICATE MATERIALS WITH MESOSCOPIC STRUCTURES**ABSTRACT OF THE DISCLOSURE**

Template-based methods fabricate organosilicate materials with mesoscopic structures. The methods include providing solutions of amphiphilic template molecules, mixing amphiphilic organosilicate precursors into the solutions to form mixtures, and evaporating solvent from the mixtures. The evaporation steps produce composites in which the amphiphilic organosilicate precursors have nontrivial mesoscopic structures.